according to a result of analyzing the detected transmission headers, adding short message service headers to the respective blocks to which the transmission headers are added, and transmitting the blocks including the transmission headers and the short message service headers added thereto.

REMARKS

The Office Action mailed November 15, 2002 has been reviewed and carefully considered. Claims 1 to 43 are pending in this application. Of these, claims 1, 9, 15, 21, 26, 30, 35 and 42 have been amended and are the independent claims.

Reconsideration of the above-identified application, as herein amended and in view of the following remarks, is respectfully requested.

Claim Rejections Under 35 U.S.C. 103(a)

Claims 1, 3 to 9, 11 to 16, 18 to 23 and 25 to 43 were rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 6,400,942 to Hansson et. al. ("Hansson") in view of U.S. Patent No. 6,021,433 to Payne et. al. ("Payne"). Although the body of the detailed action recites that the rejection is applied to claims 1, 3 to 9, 11 to 16, 18 to 24 and 26 to 43, the detailed action as a whole suggests that the former series of claims was intended for this basis of the rejection, and such will be assumed henceforth.

The Hansson reference purports to solve the problem of how to adapt (Hansson, col. 5, line 6: "adapt") existing point-to-point short message service (SMS) infrastructure to broadcast to a selected group of intended recipients. Conventional use of SMS, i.e. in point-to-point communication, would overwhelm the system resources (col. 1, lines 50

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to 59). Hansson consequently considers use of a shared channel, either a broadcast channel or a paging channel. Use of a broadcast channel to broadcast messages to the intended recipients would waste resources. Hansson therefore resorts to utilization of a paging channel to make the broadcast. A problem, however, is that the paging channel affords a very limited message size, e.g. 34 bytes (col. 5, line 29: "34 octets"), in comparison to the standard (i.e. point-to-point) SMS limit of 160 bytes. Hansson overcomes the paging channel limitation by splitting the message to be broadcast into multiple smaller messages. To confine the broadcast to users of the Hansson system, Hansson alters the standard paging message header so that it is unrecognizable to, and therefore discarded by, conventional cellular equipment (col. 5, lines 5 to 9). To further confine the broadcast to intended recipients, e.g. of a particular news group, Hansson includes in the message a broadcast group address 24 that identifies the intended recipients (col. 6, lines 7 to 13).

By contrast, the present invention as recited in claim 1 as amended generates inherent distinction data transmission headers configured for point-to-point communication and corresponding to the encoded data, and forms the encoded data and generated data transmission headers into user data of a short message service. Short message service blocks that include the user data are then transmitted on a point-to-point communication channel.

The Payne reference is directed to data communication connecting on-line networks with on-line and off-line computers. Payne does not even mention SMS. There is no way to modify Hansson in view of Payne to read on the invention as recited in

amended claim 1. For this reason alone, claim 1 as amended is non-obvious over the applied references.

Moreover, the applicants note that no reference exists on the basis of which it would have been obvious to modify Hansson to read on claim 1.

THE PROPOSED MODIFICATION CANNOT RENDER THE PRIOR ART UNSATISFACTORY FOR ITS INTENDED PURPOSE

> If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). MPEP 2143.01.

Modifying Hansson to incorporate inherent distinction data transmission header configured for <u>point-to-point communication</u> and to transmit on a <u>point-to-point communication channel</u> would render Hansson unsatisfactory for its intended purpose of <u>broadcasting</u> to a selected group of recipients. For this reason too, claim 1 as amended is non-obvious over the applied references.

THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE

> If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). MPEP 2143.01.

Hansson operates on the principle of altering a standard paging message header and attaching a message that is then <u>broadcast</u> on a <u>shared, paging channel</u>. Modifying Hansson to incorporate inherent distinction data transmission header configured for <u>point-to-point communication</u> and to transmit on a <u>point-to-point communication channel</u> would change the principle of operation of Hansson. For this reason also, amended claim 1 is non-obvious over the applied references.

Support for the amendment of claim 1 is found in the specification on page 2, lines 10 to 12; page 4, lines 10 to 13; and page 15, line 21 to page 17, line 21. No new matter has been added. Reconsideration and withdrawal of the rejection is respectfully requested.

As to amended claim 9, it specifies "detecting predetermined inherent data transmission headers from short message service blocks received from a point-to-point communication channel." Therefore, for the same reasons that claim 1 is non-obvious over the applied references, amended claim 9 is likewise non-obvious.

As to amended claim 15, it specifies "generating inherent distinction data transmission headers according to completion of data encoding and for point-to-point communication" and transmitting "on a point-to-point communication channel." Therefore, for the same reasons that claim 1 is non-obvious over the applied references, amended claim 15 is likewise non-obvious.

As to amended claim 21, it specifies "detecting whether short message service blocks that have been transmitted on a point-to-point communication channel are received" and detecting whether the blocks "include predetermined inherent distinction data transmission headers for point-to-point communication." Therefore, for the same reasons that claim 1 is non-obvious over the applied references, amended claim 21 is likewise non-obvious.

As to amended claim 26, it specifies "generating inherent transmission headers configured for point-to-point communication" and transmitting "on a point-to-point communication channel." Therefore, for the same reasons that claim 1 is non-obvious over the applied references, amended claim 26 is likewise non-obvious.

As to amended claim 30, it specifies "generating inherent data transmission headers configured for point-to-point communication" and adding, to the encoded data and inherent data transmission headers, "SMS headers configured for point-to-point communication." Therefore, for the same reasons that claim 1 is non-obvious over the applied references, amended claim 30 is likewise non-obvious. In addition, the invention as recited in amended claim 30 adds an SMS header, rather than a paging header of Hansson. For this reason too, amended claim 30 is non-obvious over the applied references.

As to amended claim 35, it specifies an SMS data block structure that includes "an SMS header configured for point-to-point communication." Therefore, for the same reasons that claim 1 is non-obvious over the applied references, amended claim 35 is likewise non-obvious. In addition, the invention as recited in amended claim 35 adds an SMS header, rather than a paging header of Hansson. For this reason too, amended claim 35 is non-obvious over the applied references.

As to amended claim 42, it specifies "transmitting and receiving short message service block in point-to-point communication," "encoding the transmitted data and dividing the encoded data into blocks" and "generating inherent transmission headers to be added to the respective blocks, the headers being configured for point-to-point communication." Therefore, for the same reasons that claim 1 is non-obvious over the applied references, amended claim 42 is likewise non-obvious.

As to claims 3 to 8, 11 to 14, 16, 18 to 20, 22, 23, 25, 27 to 29, 31 to 34, 36 to 41 and 43, they depend from base claims 1, 9, 15, 21, 26, 35 and 43, respectively, and are deemed to be patentable for the same reasons.

Claims 2, 10, 17 and 24 were rejected under 35 U.S.C. 103(a) as unpatentable over Hansson in view of Payne and U.S. Patent No. 6,430,409 to Rossmann ("Rossmann").

Rossmann is directed to architecture for a two-way interactive data communications network. Rossman discusses conventional use of SMS (col. 2, lines 33 to 53), but does not disclose or suggest the present invention. Moreover, Rossmann fails, as would any reference, to make up for the deficiencies in Hansson.

Accordingly, claims 2, 10, 17 and 24, which depend from base claims 1, 9, 15 and 21, respectively, would not have been obvious in view of the applied references. Reconsideration and withdrawal of the rejection is respectfully requested.

None of the applied references, alone or in combination, render obvious the invention as recited in claims 1 to 43.

In view of the foregoing amendments and remarks, it is believed that this application is now in condition for allowance. The Examiner is invited to contact the undersigned in the event of any perceived outstanding issues so that passage of the case to issue can be affected without the need for a further Office Action.

If there are any fees due and owing, please charge Deposit Account No. 502-470.

Respectfully submitted,

By: _____Steve Cha_____
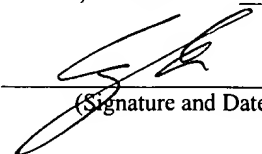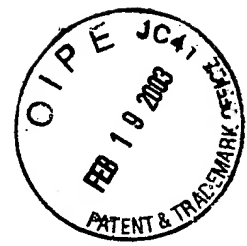Attorney for Applicant
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MARKED-UP COPY OF CHANGES

IN THE CLAIMS:

Amend claims 1, 9, 15, 21, 26, 30, 35 and 42 as follows:

1.   (Amended) A data transmitting apparatus for a digital mobile station, said apparatus comprising:

    a data storage section for storing data to be transmitted;

    an encoding section for reading and encoding the stored data in a predetermined form;

    a data transmission header generating section for generating inherent distinction data transmission headers <u>configured for point-to-point communication and</u> corresponding to the data encoded by the encoding section;

    a control section for forming the encoded data and the generated data transmission headers into user data of a short message service; and,

    a short message transmitting section <u>configured</u> for transmitting, on a point-to-point communication channel, short message service blocks [which] <u>that</u> include the user data of the short message service.

9.   (Amended) A data receiving apparatus for a digital mobile terminal, said apparatus comprising:

    a data transmission header detecting and analyzing section <u>configured</u> for detecting predetermined inherent data transmission headers from [received] short message service blocks <u>received from a point-to-point communication channel,</u> and analyzing the detected data transmission headers;

a decoding section for decoding the received short message service blocks in a predetermined form according to the data transmission headers detected by the data transmission header detecting and analyzing section;

a control section for distinctively determining storage regions of the decoded short message service blocks according to a result of analyzing the data transmission headers; and,

a data storage section for storing the decoded short message service blocks according to the determined storage regions.

15.   (Amended) A data transmitting method for a digital mobile station using a short message service, said method comprises the steps of:

(1) reading and encoding stored data in a data transmission mode;

(2) generating inherent distinction data transmission headers according to completion of data encoding and for point-to-point communication;

(3) forming the encoded data and the generated data transmission headers into user data of a short message service; and[,]

(4) transmitting, on a point-to-point communication channel, short message service blocks including the user data of the short message service.

21.   (Amended) A data receiving method for a digital mobile station using a short message service, comprising the steps of:

(1) in a standby state, detecting whether short message service blocks that have been transmitted on a point-to-point communication channel are received [in

a standby state];

(2) detecting whether the detected short message service blocks detected in step (1) include predetermined inherent distinction data transmission headers for point-to-point communication;

(3) [analysing] analyzing the data transmission headers and then decoding the received short message service blocks according to a result of analysis if the data transmission headers detected in step (2) include predetermined inherent distinction data transmission headers for point-to-point communication; and [,]

(4) storing the decoded short message service blocks in succession to previously processed short message service blocks.

26.   (Amended) A short message service data transmitting method for a digital mobile station comprising the steps of:

(1) reading and encoding stored data and making the encoded data into blocks of a predetermined unit in a short message service data transmission mode;

(2) generating inherent transmission headers configured for point-to-point communication and corresponding to the respective data blocks and adding the transmission headers to the data blocks encoded in step (1), respectively;

(3) adding short message headers to the data blocks to which the transmission headers generated in step (2) are added, respectively; and [,]

(4) sequentially transmitting the data blocks on a point-to-point communication channel.

30.	(Amended) A method of constructing short message service (SMS) blocks for a digital mobile station, comprising the steps of:

(1) dividing encoded data into blocks of a predetermined unit;

(2) generating inherent data transmission headers configured for point-to-point communication and corresponding to the respective divided blocks and adding the generated data transmission headers to the divided blocks, respectively; and [,]

(3) adding [short message service] (SMS) headers configured for point-to-point communication to the divided blocks to which the data transmission headers are added, respectively.

35.	(Amended) A short message service (SMS) data block structure, comprising a user data field region which includes an [short message service] SMS header field including an [short message service] SMS header configured for point-to-point communication, a data header field for distinction of transmitted data, and a transmitted data field including encoded transmitted data.

42.	(Amended) A short message service block transmitting and receiving apparatus for a digital mobile station, comprising:

a short message service block transmitting and receiving section configured for transmitting and receiving short message service blocks by means of a point-to-point communication channel;

a transmitted data storage section for storing the transmitted and received

short message service blocks;

a data coding section for encoding the transmitted data and dividing the encoded data into blocks of a predetermined unit, the data coding section sequentially decoding the blocks sequentially received in a predetermined order;

a header generating section for generating inherent transmission headers to be added to the respective blocks, the headers being configured for point-to-point communication;

a transmission header detecting and analyzing section for detecting and analyzing the inherent transmission headers included in the received short message service blocks; and [,]

a control section for designating a storage order of the decoded blocks according to a result of analyzing the detected transmission headers, adding short message service headers to the respective blocks to which the transmission headers are added, and transmitting the blocks including the transmission headers and the short message service headers added thereto.